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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,550	01/24/2001	Hiroyuki Akimoto	01038/LH	5150

7590

02/07/2005

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EXAMINER

QIN, YIXING

ART UNIT

PAPER NUMBER

2622

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/768,550

Applicant(s)

AKIMOTO, HIROYUKI

Examiner

Yixing Qin

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### ***Claim Objections***

Claim 4 is objected to because of the following informalities: on page 26, line 8, the word "wiring" appears that it should be "writing" instead. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

I. Claims 1, 2, 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi (U.S. Patent No. 4,723,857) and further in view of the applicant's admitted prior art.

#### **I. Claim 1**

Regarding claim 1, Yokoi discloses :

- in column 3, lines 61-63, that "(m)ounted on the subframe 20 are the platen 11, a ribbon cassette 23, and a carriage 24, which carries thereon a print head 25 adapted for dot matrix printing.

Although Yokoi does not disclose the exact image production items (image holding body, image formation means, and paper conveyor) as mentioned in claim 1, Yokoi is simply mentioning a different type of printer (dot matrix than that being claimed). According to the applicant's description of the related art, on pages 2 lines 10-27 and page 3 lines 1-14, the application discloses that a conventional printer (well known in the art) contains:

Art Unit: 2622

- “a paper feeding roller” (paper conveying means) (page 2, line 10)
- “a fixation unit” (image formation means) (page 2, line 15)

“a print head 26 selectively exposes the circumferential surface of a photosensitive drum 23...(to form) an electrostatic latent image...on the photosensitive drum...”

(image holding body, writing means) (page 2 lines 23-27, page 3 lines 1-2)

Therefore, it is clear to one of ordinary skill in the art that the platen, cassette, carriage, and print head that Yokoi discloses are for image production.

The subframe holds the platen, ribbon cassette, carriage and print head (i.e. **the subframe supports “image holding body” and “writing means”**),

- in Fig. 5 a main frame (item 10) and a subframe (item 20). The main frame can be read as a **“lower frame”** and item 20 is the **“subframe”**.
- in column 3, lines 54-60, Yokoi discloses that the “...subframe 20 is mounted on (i.e. connected to) the rear half portion of the main frame 10...(and) a pair of rear mounting portions 21...and a part of front mounting portions...are provided...”  
Having four (2 pairs) of connection points indicates that **“the sub-frame (is) connected with said lower frame at [at least] three connection points.”** This is able to meet the claim limitation because the claim is not limited to only three connection points.

- Yokoi discloses in column 5, lines 60-64, that "...the subframe 20 is mounted on the main frame...(and enjoys) a stable mounting state." (i.e. **"unlikely to be twisted as a result of unstable arrangement of the lower frame."**)

Since Yokoi and the applicant's admitted prior art disclose frames holding image formation units, it would have been obvious to one of ordinary skill in the art at the time of the invention to put the applicant's disclosed prior art internal structure of the printer into a frame as disclosed by Yokoi. The motivation is to be able to use newer technology (dot matrix printers are "old") while using the same sturdy frame of a printer. Yokoi discloses (in the abstract, lines 1-6, for example) that his frame structure is for supporting various components of a printer.

## 2. Claim 2

Regarding claim 2, Yokoi discloses :

- "rectangular shaped" frames. In Fig. 1 and column 3, lines 40-45, Yokoi teaches that "(a) casing...along with the main frame 10 and the covers 12,13, and 14, define a roundcornered, rectangular outline of the printer." One can see from Fig. 1 of Yokoi that the main frame 10, is **"approximately in a rectangular shape."** In Fig. 4, the subframe can be seen as the large portion on the bottom of the drawing made of the bottom plate 50 with vertical walls (Yokoi, column 6, lines 34-36). From the picture, the subframe looks to be **"rectangular"** as well.

- in Fig. 5 and column 3, lines 54-60, "...subframe 20 is mounted on (i.e. connected to) the rear half portion of the main frame 10...(and) a pair of rear mounting portions 21...and a pair of front mounting portions...are provided..." as from claim 1 above. In looking at Fig. 5 of Yokoi, items 57 ("engaging holes", Yokoi, column 5, line 43), and 61 ("mounting members", Yokoi, column 5, line 52) are the points at which the subframe is to be mounted. These two pairs of connection points are on two sides ("**predetermined sides**") of the main frame. Claim 2 does not specifically state that there are only "two connections points on one side and one connection point on the other side" between the subframe and the main frame and in Yokoi's invention there are two connection points on each side, meaning that has to include "**two connection points on a predetermined side...and one point on a side facing the predetermined side...**"

### 3. Claim 3

Regarding claim 3, Yokoi discloses :

- in Fig. 4 and column 6, lines 31-33 that the subframe supports various print components. Some of the components that the subframe supports are the rollers (i.e. "**paper conveying means**") (Yokoi, column 6, line 66).

### 4. Claim 5

Regarding claim 5, Yokoi discloses

- in Fig. 4 and column 6, lines 31-33 that the subframe supports various print components. Some of the components that the subframe supports are the rollers (i.e. “**paper conveying means**”) (Yokoi, column 6, line 66).

II. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi (U.S. Patent No. 4,723,857) and in view of the applicant’s admitted prior art, and further in view of Maruyama et al (U.S. Patent No. 5,870,659).

#### 5. Claim 4

The Yokoi reference and the applicant discloses:

- on page 2, lines 8-27 and page 3, lines 1-13, all of the components mentioned in the claim (see claim 1) are part of a “printer device 1” (Yokoi, page 2, lines 8-9). Furthermore, on page 3, lines 9-13, Yokoi discloses that “(t)he photosensitive drum 23, the charger, the developing unit 27, the transfer unit, a cleaner, etc. (are) included in the image formation section...”

However, the Yokoi and applicant’s disclosure of the related art fails to explicitly disclose “**an image formation unit.**” Since all of these components are part of the image formation process and it would have been obvious to one of ordinary skill in the art at the time of the invention to simply put these components together as a “image formation unit.” The motivation is to better organize components for efficient printing.

The Yokoi reference and the applicant also fail to disclose:

- that the printer device is of a “tandem –type.”

However, the tertiary reference Maruyama et al disclose in column 1, lines 32-33, the idea of a “...**tandem type** image forming apparatus.” Further on, in column 1, lines 47-60, Maruyama et al gives an example of such a printer that includes “charging devices”, “exposure devices” “developing devices” (writing and image formation means) and a “cleaner” disposed around the various photosensitive member (image holding device). Maruyama et al also discloses “...a belt like transfer member 5 (paper conveyor)...”

Although Maruyama et al does not necessarily call these components an “unit,” it is clear from the description and the drawings that they are used together to form an image.

All three references are related in that they are about the design of an image forming apparatus. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to put the design of a tandem type printer as disclosed by Maruyama et al into the frame design as mentioned in the Yokio reference. The motivation is to be able to use one frame design for various printer types.

## **6. Claim 6**

The Yokoi reference and the applicant discloses:



Art Unit: 2622

- on page 2, lines 8-27 and page 3, lines 1-13, all of the components mentioned in the claim (see claim 1) are part of a “printer device 1” (Yokoi, page 2, lines 8-9). Furthermore, on page 3, lines 9-13, Yokoi discloses that “(t)he photosensitive drum 23, the charger, the developing unit 27, the transfer unit, a cleaner, etc. (are) included in the image formation section...”

However, the Yokoi and applicant’s disclosure of the related art fails to explicitly disclose “**an image formation unit.**” Since all of these components are part of the image formation process and it would have been obvious to one of ordinary skill in the art at the time of the invention to simply put these components together as a “image formation unit.” The motivation is to better organize components for efficient printing.

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Although Maruyama et al does not necessarily call these components an “unit,” it is clear from the description and the drawings that they are used together to form an image.

All three references are related in that they are about the design of an image forming apparatus. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to put the design of a tandem type printer as disclosed by Maruyama et al into the frame design as mentioned in the Yokio reference. The motivation is to be able to use one frame design for various printer types.

### ***Conclusion***

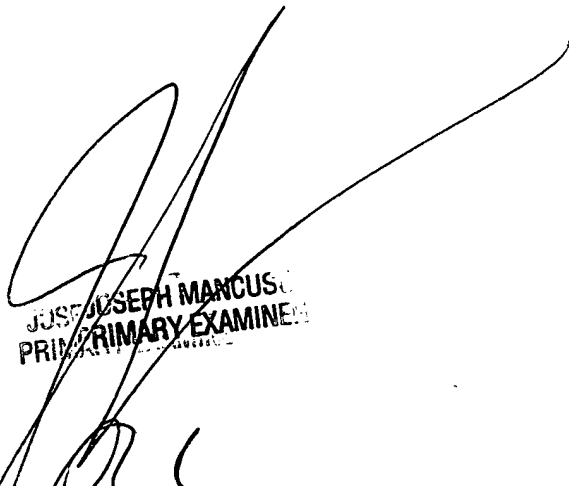
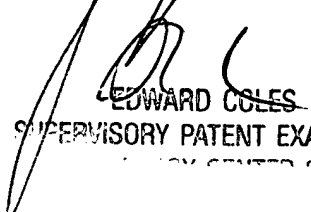
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yixing Qin whose telephone number is 703-306-4142. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on 703-305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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